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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/073,933 | 02/14/2002 | Pangan Ting | 06720.0084 | 5317 |

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| EXAMINER |
|---|
| PEREZ, JULIO R |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2681 | |

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 July 2005*.

2a)☐ This action is **FINAL**.      2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☐ Claim(s) *1-9* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6 and 9* is/are allowed.

6)☒ Claim(s) *1-5,7 and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some * c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## Response to Arguments

1. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

## DETAILED ACTION

### Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5, 7-8, are rejected under 35 U.S.C. 103(a) as being unpatentable over Subramanian [6721581] in view of Dave [6415384].

Regarding claim 1, Subramanian discloses an upgradeable and extendable wireless communication system, comprising: a plurality of layers, each layer including: a plurality of configurable computational units that implement operation of wireless digital communication functions, at least one of the plurality of configurable computational units being selected based on a wireless communication standard to configure various hardware for dedicated functions (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, the system comprises a number of elements to implement a digital communication, several Kernels to be configured and interact with different standards); a plurality of data flow components for forming paths between ones

of said computational units (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5,

lines 3- 9, 63-67; col. 6, lines 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-23;

col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, computational elements within

the system comprise means to maintain data flowing and means from storing

information); and a plurality of control flow components for forming a signaling-

exchange network between ones of said computational units (col. 3, lines 6-9,

28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 6, lines 1-30, 54-66; col. 7,

lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs.

4A-6, signaling is provided within the system).

Subramanian, however, fails to specifically disclose wherein the

computational units are being dynamically selected in real-time.

In a similar field of endeavor, Dave discloses a process of partitioning in a

hardware-software co-synthesis system that selects configurable computational

devices in real-time (col. 1, lines 66-67; col. 2, lines 1-20; col. 3, lines 20-37; col.

4, lines 1-16).

Therefore, at the time of the invention, it would have been obvious to a

person of ordinary skill in the art to modify Subramanian with the teachings of

Dave for the purpose of configuring devices in real-time to obtain hardware and

software architectures such that several implanted system restrictions such as

cost and power are met, and to further provide higher performance as well as

flexibility to adapt to with changing system needs at low cost and also because

dynamically reconfigurable embedded systems exploit reconfigurability of

programmable devices at run-time to achieve further cost savings.

Regarding claim 2, the combination of Subramanian and Dave discloses

including means for at least one layer of said plurality of layers to communicate

with at least another layer of said plurality of layers (Subramanian, col.3, lines 28-

31; col. 4, lines 48-58).

Regarding claim 3, the combination of Subramanian and Dave discloses,

wherein the plurality of configurable computational units comprise a RF front-end

waveform kernel set, a re-configurable kernel set and a reprogrammable kernel

set (Subramanian, col. 4, lines 48-58; col. 5, lines 36-39; col. 6, lines 1-3, sets of

Kernels are provided, which used the air as a medium for communication).

Regarding claim 4, the combination of Subramanian and Dave discloses,

wherein the plurality of data flow components comprises a layer-router structure

(Subramanian, col. 4, lines 14-24; Figs. 4A-6).

Regarding claim 5, the combination of Subramanian and Dave discloses,

wherein the plurality of control flow components comprise a layer-memory

structure and a layer-bus structure (col. 3, lines 6-9, 28-48; col. 4, lines 38-54;

col. 5, lines 3- 9, 63-67; col. 6, lines 1-24, 54-66; col. 7, lines 1-25, 53-63; col. 8,

lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, memory structures

and memory structures are provided within the system).

Regarding claim 7, the combination of Subramanian and Dave discloses

wherein at least a first one of the plurality of data flow components interconnects

one or more of the computation units and at least a second one of the plurality of

data flow components interconnects one or more of the plurality of layers (col. 3,

lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 6, lines 54-66;

col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4;

Figs. 4A-6, computational elements within the system comprise means to

maintain data flowing and means from storing information).

Regarding claim 8, the combination of Subramanian and Dave discloses

wherein each of the plurality of data flow components have storage needed to

form the paths (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-

67; col. 6, lines 1-30, 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9,

lines 24-32; col. 10, lines 17-4; Figs. 4A-6).

### Allowable Subject Matter

4.      Claims 6,9 are allowed.

### Conclusion

5.      The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. The following patents are cited to further show the art with

respect to configuring computational devices with speech functions.

US Pat. No. 6,052,600 to Fette et al.       .       Software programmable

radio and method for configuring.

6.      Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Julio R. Perez whose telephone number is

(571) 272-7846.  The examiner can normally be reached on 7:00 - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Joseph H. Feild can be reached on (571) 272- 4090.  The
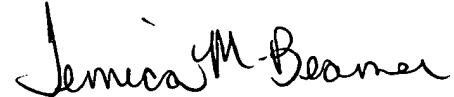
fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system.  Status information

for published applications may be obtained from either Private PAIR or Public

PAIR.  Status information for unpublished applications is available through

Private PAIR only.  For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

JP
9/19/05

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